WHAT IS CLAIMED IS:

1. An apparatus comprising a heat exchanger which includes:

a conduit having spaced first and second portions and a thermally conductive portion disposed therebetween, said second portion being vertically lower than said first portion;

a supply section for supplying to said first portion of said conduit a fluid coolant, at least a portion of the coolant being in a vapor state, and at least a portion of the coolant flowing from said first portion of said conduit through said thermally conductive portion thereof to said second portion thereof;

thermally conductive structure having a portion which is thermally coupled to said thermally conductive portion of said conduit for receiving heat from coolant in said thermally conductive portion of said conduit, so that coolant in a vapor state is cooled and changes to a liquid state;

first and second valves which each have an inlet and an outlet, said inlets of said valves being physically spaced from each other in a predetermined direction;

fluid communication structure providing fluid communication between said inlet of each said valve and said second portion of said conduit;

valve control structure responsive to the presence of coolant in a liquid state at the inlet to either said valve for opening that valve; and

a discharge section communicating with said outlet of each said valve.

2. An apparatus according to Claim 1,

wherein said heat exchanger includes a further conduit having spaced first and second portions and a thermally conductive portion disposed therebetween, said second portion of said further conduit being vertically lower than said first portion thereof, said conduits being spaced from each other in a further direction approximately perpendicular to said predetermined direction;

wherein said supply section supplies the coolant to said first portion of said further conduit, at least a portion of the coolant flowing from said first portion of said further conduit through said thermally conductive portion thereof to said second portion thereof;

wherein said thermally conductive structure has a further portion which is thermally coupled to said thermally conductive portion of said further conduit for receiving heat from coolant in said thermally conductive portion of said further conduit;

wherein said heat exchanger includes third and fourth valves which each have an inlet and an outlet, said inlets of said third and fourth valves being physically spaced from each other in said predetermined direction, and being spaced approximately in said further direction from said inlets of said first and second valves; wherein said heat exchanger includes further fluid communication structure providing fluid communication between said inlet of each of said third and fourth valves and said second portion of said further conduit;

wherein said valve control structure is responsive to the presence of coolant in a liquid state at the inlet

to either of said third and fourth valves for opening that valve; and

wherein said discharge section communicates with said outlet of each of said third and fourth valves.

3. An apparatus according to Claim 2,

wherein said heat exchanger includes two additional conduits which each have spaced first and second portions and a thermally conductive portion disposed therebetween, said conduits all being spaced from each other in said further direction, said second portion of each said additional conduit being vertically lower than said first portion thereof, and said supply section supplying coolant to said first portion of each said additional conduit, at least a portion of the coolant flowing from said first portion of each said additional conduit through said thermally conductive portion thereof to said second portion thereof;

wherein said thermally conductive structure has two additional portions which are each thermally coupled to said thermally conductive portion of a respective said additional conduit for receiving heat from coolant in said thermally conductive portion thereof; and

wherein each said fluid communication structure is in fluid communication with said second portion of a respective said additional conduit.

4. An apparatus according to Claim 3, wherein said supply section includes first, second and third sections, said second and third sections being spaced in said further direction, said first section supplying coolant to each of said second and third sections, said second section supplying coolant to said first portions of two of said conduits which each have said second portion thereof in fluid communication with one said fluid communication structure, and said third section supplying coolant to said first portions of the other two of said conduits.

5. An apparatus according to Claim 3,

wherein each said conduit has two of said first portions which are disposed on opposite sides of said second portion along said conduit and which each receive coolant from said supply section, each said conduit having third and fourth portions which are spaced from each other in said predetermined direction and which are each disposed along said conduit between said second portion and a respective one of said first portions, said third portion of each said conduit being said thermally conductive portion thereof and said fourth portion thereof being thermally conductive; and

wherein said thermally conductive structure has further portions which are each thermally coupled to said fourth portion of a respective said conduit.

6. An apparatus according to Claim 5, wherein each said fluid communication structure includes first and second collection conduits which each communicate with the inlet of a respective said valve, said second portion of each said conduit communicating with two of said collection conduits at respective locations along said second portion which are spaced in said predetermined direction.

7. An apparatus according to Claim 6, including an elongate housing which extends approximately in said further direction, and which has said heat exchanger therein.

8. An apparatus according to Claim 3, wherein said portions of said thermally conductive structure each include a plurality of spaced fins.

9. An apparatus according to Claim 8, wherein said heat exchanger includes vanes which are supported on said conduits and configured to cause air flowing approximately in said further direction to be redirected to flow past said fins approximately perpendicular to said further direction and to then be redirected again so as to flow approximately in said further direction.

10. An apparatus comprising:

an elongate housing which extends approximately in an axial direction;

a heat exchanger disposed within said housing and having a plurality of coolant conduits that are spaced from each other in said axial direction, that each extend approximately transversely to said axial direction, and that each have structure thereon for facilitating a transfer of heat from the conduit to air adjacent thereto, wherein a flow of air travels within said housing in said first direction on one side of said conduits, flows past said conduits to the other side thereof approximately perpendicular to said axial direction and said conduits, and then resumes flowing in said axial direction within said housing on said other side of said conduits.

11. An apparatus according to Claim 10, including vanes which are supported on said conduits and which are configured to facilitate redirection of the air from flowing in said axial direction on said one side of said conduits to flowing past said conduits approximately perpendicular to said axial direction, and to facilitate redirection of the air from flowing past said conduits approximately perpendicular to said axial direction to flowing in said axial direction on said other side of said conduits.

12. An apparatus according to Claim 11, wherein said structure on said conduits for facilitating a transfer of heat includes a plurality of fins mounted on each said conduit.

13. An apparatus according to Claim 10, wherein said heat exchanger is configured as a plurality of modular sections which are disposed at spaced locations along said housing, and which each include at least one of said conduits.

14. A method of operating an apparatus having a heat exchanger which includes a conduit with a thermally conductive portion disposed between first and second portions, said second portion being vertically lower than said first portion, which includes thermally conductive structure with a portion thermally coupled to said thermally conductive portion of said conduit, and which includes first and second valves that each have an inlet and an outlet, said inlets of said valves being physically spaced from each other in a predetermined direction and each being in fluid communication with said second portion of said conduit, said method comprising:

supplying to said first portion of said conduit a fluid coolant, at least a portion of the coolant being in a vapor state;

causing at least a portion of the coolant to flow from said first portion of said conduit through said thermally conductive portion thereof to said second portion thereof, said portion of said thermally conductive structure receiving heat from coolant in said thermally conductive portion of said conduit so that coolant in a vapor state is cooled and changes to a liquid state;

responding to the presence of coolant in a liquid state at the inlet to either said valve for opening that valve; and

delivering coolant from said outlet of each said valve to a discharge section.

15. A method according to Claim 14, including:

configuring said heat exchanger to have a further conduit with a thermally conductive portion disposed between first and second portions, said second portion of said further conduit being vertically lower than said first portion thereof, and said conduits being spaced from each other in a further direction approximately perpendicular to said predetermined direction;

configuring said heat exchanger to have third and fourth valves which each have an inlet and an outlet, said inlets of said third and fourth valves being physically spaced in said predetermined direction and being spaced approximately in said further direction from said inlets of said first and second valves, and said inlets of said third and fourth valves each being in fluid communication with said second portion of said further conduit;

configuring said thermally conductive structure to have a further portion which is thermally coupled to said thermally conductive portion of said further conduit for receiving heat from coolant in said thermally conductive portion of said further conduit;

supplying the coolant to said first portion of said further conduit, at least a portion of the coolant flowing from said first portion of said further conduit through said thermally conductive portion thereof to said second portion thereof;

responding to the presence of coolant in a liquid state at the inlet to either of said third and fourth valves for opening that valve; and

delivering coolant from said outlet of each of said third and fourth valves to said discharge section.

16. A method according to Claim 15, including:

configuring said heat exchanger to have two additional conduits which each have a thermally conductive portion disposed between first and second portions, said conduits all being spaced from each other in said further direction, said second portion of each said additional conduit being vertically lower than said first portion thereof, and each said fluid communication structure being in fluid communication with said second portion of a respective said additional conduit;

configuring said thermally conductive structure to have two additional portions which are each thermally coupled to said thermally conductive portion of a respective said additional conduit for receiving heat from coolant in said thermally conductive portion thereof; and

supplying the coolant to said first portion of each said additional conduit, at least a portion of the coolant flowing from said first portion of each said additional conduit through said thermally conductive portion thereof to said second portion thereof.

17. A method of operating an apparatus which includes an elongate housing extending approximately in an axial direction, and a heat exchanger disposed within said housing and having a plurality of coolant conduits which are spaced from each other in said axial direction, which each extend approximately transversely to said axial direction, and which each have structure thereon for facilitating a transfer of heat from the conduit to air adjacent thereto, said method comprising: causing a flow of air to travel within said housing in said first direction on one side of said conduits; causing said air to thereafter flow past said conduits to the other side thereof approximately perpendicular to said axial direction and said conduits; and causing said air to then resume flowing in said axial direction within said housing on said other side of said conduits.

18. A method according to Claim 17, including providing vanes on said conduits which are configured to facilitate redirection of the air from flowing in said axial direction on said one side of said conduits to flowing past said conduits approximately perpendicular to said axial direction, and to facilitate redirection of the air from flowing past said conduits approximately perpendicular to said axial direction to flowing in said axial direction on said other side of said conduits.

19. A method according to Claim 17, including configuring said heat exchanger as a plurality of modular sections which are disposed at spaced locations along said housing, and which each include at least one of said conduits.